

ABSTRACT

A scalable system and method for locating a closest server in response to a client request via an interactive distribution network, such as the Internet, are provided. A closest content server is defined as having the least round trip time for responding to a client request. The system including a plurality of content servers; and a local server in communication with a plurality of clients, the local server acting as a proxy for communicating client requests from clients to a redirection server. Client network distance and load information is periodically collected at each content server in the network from clients communicating with each of the respective content servers. The redirection server periodically aggregates the network distance and load information from each content server to create client clusters from both current and previously aggregated network distance and load information. Each client cluster represents a division or partition of the total IP address space. Each client cluster is then mapped (paired) to one or more content servers in the network. The mapping or pairing is then utilized to respond to client DN requests received from any client in the network. Another aspect of the invention involves considering the respective capacities of the content servers in the network. A selection probability is assigned to each content server/domain index pair to prevent the repeated selection of the content server having lowest round trip time thereby overloading that server's service capacity. The selection probabilities assigned to each content server effect a load balancing to prevent overloading. Another aspect of the invention involves collecting the distance and load information without incurring any overhead cost by passively collecting TCP information as it is transmitted from clients in communication with content servers in the course of normal communications.